

CLAIMS

1. A substrate carrying device comprising:  
a transfer mechanism; and  
a substrate support member attached to the transfer mechanism and supporting a substrate,

wherein the substrate support member includes a connecting part for connecting the substrate support member to an extension support member so as to support the substrate in cooperation with the substrate support member.

2. The substrate carrying device according to claim 1, wherein the substrate support member includes a support body having a support surface, the support body having a peripheral connecting part adapted to be joined to a peripheral connecting part formed in the extension support member.

3. The substrate carrying device according to claim 1, wherein the substrate support member includes a support body having a support surface; a suction member attached to the support surface of the support body and adapted to attract and support the substrate; a suction passage extended in the support body and connected to the suction member; and a connecting structure for connecting the suction passage to a suction passage included in the extension support member, and wherein the connecting structure connects the suction passage of the substrate support member to the suction passage of the extension support member when the extension support member is connected to the substrate support member.

4. The substrate carrying device according to claim 3, wherein the substrate support member includes a support body having a support surface; a suction member attached to the support surface of the support body and adapted to attract and hold the substrate; and a flatness adjusting mechanism for adjusting flatness of the substrate held by the suction member.

5. The substrate carrying device according to claim 1, wherein the extension support member includes a support body having a support surface; a suction member attached to

the support surface of the support body and adapted to attract and hold the substrate; and a flatness adjusting mechanism for adjusting flatness of the substrate held by the suction member.

6. The substrate carrying device according to claim 1, further comprising an electronic part support member for supporting an electronic part mounted on the substrate.

7. The substrate carrying device according to claim 1, further comprising:

- a detecting device that detects condition of connection of the extension support member to the substrate support member; and

- a decision device that decides whether or not a substrate to be carried is suitable for carrying on the basis of result of detection by the detecting device and a size of the substrate to be carried.

8. A substrate carrying device comprising:

- a transfer mechanism; and

- a substrate support member attached to the transfer mechanism and supporting a substrate,

wherein the substrate support member includes a first support part, and a second support part movably connected to the first support part so as to support the substrate in cooperation with the first support part.

9. The substrate carrying device according to claim 8, further comprising:

- a driving mechanism that drives the second support part for movement relative to the first support part; and

- a controller that controls a distance for which the second support part is moved by the driving mechanism, on the basis of a size of the substrate to be carried.

10. A substrate carrying method comprising the steps of:

- supporting a substrate on a substrate support member attached to a transfer mechanism; and

- carrying the substrate,

wherein an extension support member for supporting the

substrate in cooperation with the substrate support member can be detachably attached to the substrate support member, so that the substrate support member and the extension support member are used in either a state where only the substrate support member is used, or a state where the substrate support member is combined with the extension support member, depending on a size of the substrate to be carried.

11. A part-mounting apparatus of mounting an electronic part on a substrate, comprising:

a substrate carrying device that carries the substrate to a working position;

a part carrying device that carries the electronic part to a mounting position corresponding to the substrate positioned at the working position; and

a pressing tool that presses, at the mounting position, the electronic part carried by the part carrying device to the substrate carried by the substrate carrying device so as to mount the electronic part on the substrate,

wherein the substrate carrying device includes a substrate support member for supporting the substrate, the substrate support member including a connecting part for connecting the substrate support member to an extension support member so as to support the substrate in cooperation with the substrate support member.

12. A part-mounting method of mounting an electronic part on a substrate, comprising the steps of:

supporting a substrate on a substrate support member included in a substrate carrying device;

positioning the substrate at a working position by the substrate carrying device;

carrying an electronic part to a mounting position corresponding to the substrate positioned at the working position; and

pressing, at the mounting position, the electronic part carried by the part carrying device to the substrate positioned by the substrate carrying device so as to mount the electronic part on the substrate,

wherein the substrate support member includes a connecting part for connecting the substrate support member to an extension support member so as to support the substrate in cooperation with the substrate support member, and the step of supporting the substrate by the substrate carrying device includes a step of handling the extension support member to connect the extension support member to the substrate support member by the connecting part or to disconnect the same from the substrate support member, depending on a size of the substrate.